

TITLE OF THE INVENTION

**Delivery Management Method and Device, and Delivery Information Service Method**

BACKGROUND OF THE INVENTION

5 Technical Field

The present invention relates to the delivery of purchased products. More specifically, it relates to the delivery of products purchased at stores, through mail order, and through online shopping.

10 Description of Related Art

In recent years it has become customary for products to be sold not just at stores, but through mail order and through online shopping over the Internet. With this growth in mail order and online shopping, there has been a corresponding increase in the  
15 delivery of products by delivery businesses to the purchasers and to parties who receive those products as gifts (hereinafter referred to collectively as "delivery recipient").

However, with such changes in society as more and more households comprising only the nuclear family, husband and wife  
20 both holding jobs, and more people living by themselves as they wait longer to get married, there has been an increasing number of instances where delivery cannot be made because the intended recipient is not at home. When the recipient is not at home, the delivery business has to attempt another delivery at a later time;  
25 the delivery recipient, seeing the notice that delivery was

attempted, must request the delivery business to make another delivery, and must wait at home for that delivery. This imposes a burden both on the delivery business and the delivery recipient, and is a factor in rising delivery costs. For this reason,  
5 services have been proposed such that the party requesting delivery can specify delivery date and time, to make certain that delivery will be made when he or she is at home.

In addition, Japanese Laid-open Patent Application 10-162065 describes art wherein a home delivery business refers to  
10 recipient schedule information when determining the time and date for scheduling a delivery. Japanese Laid-open Patent Application 10-269447 describes art relating to home delivery of a purchased product. By using this technology, a purchaser can select at time of purchase of product his or her desired delivery service from  
15 among a plurality of possible delivery services.

Furthermore, Japanese Laid-open Patent Application 5-165847 describes art for building a not-at-home database and making it possible to predict when a delivery recipient will be at home based on this database. This not-at-home database is built  
20 when the delivery recipient/user comes home, finds that a delivery has been attempted, sees the attempted delivery notice that the delivery business left, calls the delivery business, and informs the delivery business of his or her desired date and time of delivery.

25 While the above-described background technology is

effective to a certain degree, in that it increases the probability that the delivery will be made when the intended recipient is at home, it leaves the following problems unsolved.

First, when a single user has purchased products from a plurality of vendors, each vendor may use a different delivery business, and even if they do use the same delivery business the deliveries will still be made at different times. Thus, there are delivery charges for each product, meaning an increase in delivery costs. And, for example, because a plurality of delivery businesses will come to make delivery, a user will have to respond to each delivery, which is bothersome.

Second, even if a delivery date and time were specified when requesting delivery, there are times when a user will want to change that delivery date and time because, for example, of a change in plans. In such cases, even if the user tries to request a change over the phone, there may be times when he or she is unable to get through to the delivery business because, for example, the offices aren't open, or it is difficult to make the change, or the getting the change done requires much time and effort. For example, if a user plans to have a plurality of products delivered all on the same day off, he or she must get in touch with a plurality of delivery businesses. And when sending a gift to another person, asking that person beforehand when a good time for delivery is and then specifying a delivery date and time not only is bothersome, it also diminishes the pleasure of both giving

and receiving the gift.

Third, if a user lives with someone else, he or she can have that other person receive that delivery in his or her place, but it is bothersome to have to ask fellow family members their plans  
5 each time one schedules a delivery. In the end this can lead to a situation where individual family members schedule deliveries on their own, and the overall trouble involved in being present to receive delivery increases.

Fourth, there are cases where in spite of the fact that a  
10 user paid for a product at the time that he or she ordered, because a vendor is out of stock for that item or is waiting for a shipment of that item, it takes a considerable time for that product to reach the user who made the order. The lag between the time of order and the time of receipt is a cause of frustration to the  
15 user who made the order.

#### SUMMARY OF THE INVENTION

It is an object of the present invention to resolve the above problems by allowing for efficient delivery, to alleviate the burden both to delivery recipients and to delivery  
20 businesses.

The present invention makes possible the consolidated processing of delivery information that conventionally has been processing independently for each vendor or product provider and each delivery business. This allows a user to enjoy the benefits  
25 of a service that allows him or her to know beforehand when a

product will be delivered, and to designate how he or she will receive an article, in accordance with his or her convenience and preference. And this allows delivery businesses to enjoy a service that makes it possible to deliver at the same time

5 products that have conventionally been delivered separately, despite the fact that they all had the same delivery recipient, leading to increased overall efficiency of the delivery business's delivery work.

Thus, in order to solve the above-described problems, the

10 present invention provides a method for managing delivery of products that have been ordered, wherein:

A: an application for delivery of the product is received from a provider of the product;

B: an application ID is assigned to the application;

15 C: the delivery recipient of the product is notified of the application ID and is prompted to designate delivery terms;

D: the delivery recipient is presented with a list of products scheduled to be delivered to the delivery recipient and the application IDs therefor;

20 E: designation of delivery terms for the application specified by the application ID is accepted from the delivery recipient after order of the product; and

F: request for delivery is made by notifying a predetermined delivery business of the products corresponding to

25 application IDs for which the same delivery terms have been

designated, of the designated delivery terms, and of the delivery recipient.

For example, let us consider a case where a user A makes an online purchase of a product Q from a company X and designates  
5 oneself as a recipient. Company X makes an application with a predetermined management server for delivery to user A. The management server, upon receiving this application, sends to user A an email with the URL of a web page with a form for inputting delivery terms, so that user A can designate those delivery terms.

10 When user A accesses that web page, a list of products scheduled to be delivered to him or her is displayed, and he or she can input the delivery terms for each product. Delivery terms herein are such matters as delivery date and time, delivery place, type of delivery service, delivery business, etc. This web page  
15 may also give notification of whether the product scheduled for delivery is in stock or not. This web page may also give notification of the state of delivery for products for which delivery terms have already been specified.

A delivery business is notified of the delivery terms, and  
20 the delivery business delivers the product to the delivery recipient in accordance with the delivery terms.

By using this method, a delivery recipient can designate whatever time is convenient for receipt of the package, and furthermore can receive a plurality of packages at the same time.  
25 Of course delivery terms can be changed from product to product.

For a delivery business, because it can make combined delivery of products, this will lead to a reduction in costs and time spent. Furthermore, the party providing the management server can realize a profit. For example, a delivery business can have part  
5 of the cost reductions reflected in reduced delivery charges, and pay the remainder to the party providing the management server.

A second aspect of the present invention provides a delivery management method in accordance with the first-mentioned aspect. In the method, formation of a group and  
10 designation of group members is accepted from the delivery recipient, and when a delivery recipient is notified of the product and application ID, notification is also given of a list of products scheduled for delivery to other members of the group to which the delivery recipient belongs and the application IDs  
15 therefor.

Let us suppose that the members of a single household form a group. When any member of the group wishes to see the list of products scheduled for delivery, that member will be able to see at the same time a list of products scheduled for delivery to other  
20 members. Thus, if another member of the group has already designated delivery terms, by designating the same delivery terms, the family can have the products all delivered at once.

A third aspect of the present invention provides a delivery management method according to the first-mentioned aspect. In  
25 the method, when first delivery terms have been designated for

a first product scheduled to be delivered to the delivery recipient, and prior to delivery of the first product, delivery terms are designated for another, second product, the delivery terms that were set for the first product are changed to the  
5 delivery terms set for the second product.

Let us suppose that a user A has designated "7/23/2000, morning," for delivery of a product Q. Thereafter, user A purchases another product, and designates delivery for "7/25/2000, evening." Usually it is reasonable to assume that the  
10 terms that were designated later are more convenient for the user. Thus if product Q has not yet been delivered, the delivery terms for product Q are also set as "7/25/2000, evening."

A fourth aspect of the present invention provides a delivery management method according to the first-mentioned  
15 aspect. In the method, when the recipient is the party that ordered the product, notification to the effect that the product specified by the application ID has been purchased is given to the provider of the product after the delivery terms corresponding to the application specified by the application ID  
20 have been designated.

Settlement of payment is conducted not at the time the product is ordered, but after delivery terms have been designated. For the user, this brings about an improvement of such situations where he or she does not receive the product even though a charge  
25 has been made to a credit card, and it also shortens the lag

between the time receipt of the product and paying for the product.

5 A fifth aspect of the present invention provides a delivery management method according to the first-mentioned aspect. In the method, when the delivery recipient is the party that ordered the product, the provider of the product is notified that the product specified by the application ID has been purchased, the notification occurring after the delivery terms for the application specified by the application ID have been designated.

10 A sixth aspect of the present invention provides a delivery management method according to the first-mentioned aspect. In the method, when the delivery recipient is the party that ordered the product, the provider of the product is notified that the order for the product specified by the application ID has been cancelled, the notification occurring by means of the application specified by the application being cancelled.

When a user discovers a better product after having made an order, the user can cancel that order.

20 A seventh aspect of the present invention provides a delivery management device comprising accepting means, assigning means, prompting means, providing means, designating means and requesting means.

Accepting means accepts application for delivery of a product. Assigning means assigns an application ID to the application. Prompting means notifies the product delivery

recipient of the application ID and prompts the delivery recipient to designate delivery terms. Providing means provides the delivery recipient with a list of products scheduled to be delivered to the delivery recipient and the application IDs  
5 therefor. Designating means receives from the delivery recipient designation of delivery terms corresponding to the application specified by the application ID after the product has been ordered. Requesting means requests delivery by notifying a predetermined delivery business of products corresponding to application IDs  
10 for which the same delivery terms have been designated, of the designated delivery terms, and of the delivery recipient.

This device of the present invention is equivalent to a server that executes the above-described method.

An eighth aspect of the present invention provides a  
15 computer-readable recording medium on which is recorded a program for executing the delivery information service method used in a delivery information service device wherein a plurality of user terminals, a plurality of transport business terminals and a plurality of vendor terminals are interconnected over a network.  
20 This program executes the following steps A through E:

A: processing for reception of product delivery request information sent from a vendor terminal or user terminal;

B: processing for storage of the received delivery request information in a delivery request information storage unit;

25 C: processing for extraction from the delivery request

information storage unit of delivery request information for deliveries that have not yet been made, the delivery recipient being the same as the delivery recipient in the received delivery request information;

5 D: processing for acquiring a notification address of the delivery recipient from a correspondence table of notification addresses that are held having been corresponded beforehand with delivery recipients, and for sending notification to the notification address of the delivery recipient of the received  
10 delivery request information, of the extracted delivery-pending delivery request information, and of information prompting the input of desired delivery terms, such as desired date and time of delivery; and

E: processing for transmission to a transport business  
15 terminal of information giving instruction for delivery of the article for delivery to the delivery recipient in accordance with the desired delivery terms sent from the delivery recipient.

A ninth aspect of the present invention provides a delivery information service method comprising steps of:

20 A: a delivery request for an article is received, the received delivery request is stored in a storage device, and the storage device is searched and delivery requests for pending deliveries with the same delivery recipient as the delivery recipient of the delivery request;

25 B: an address table wherein delivery recipients and

notification addresses have been corresponded beforehand is referred to and the notification address of the delivery recipient is extracted;

- C: notification is given to the delivery recipient
- 5 notification address of the delivery request and of the extracted delivery-pending delivery request and the user is prompted to input desired delivery terms such as date and time when receipt of the article scheduled for delivery is possible; and

- D: based on the desired delivery terms given in response,
- 10 instructions are made for delivery to the delivery recipient of the article scheduled for delivery, the instructions being given to a delivery business that has been designated by the desired conditions or that matches the desired conditions.

#### BRIEF DESCRIPTION OF THE DRAWINGS

- 15 FIG. 1 is an overall block diagram of the delivery management system relating to the first embodiment;

FIG. 2 is a conceptual diagram for explaining the information stored in the delivery information database in the system of FIG. 1;

- 20 FIG. 3 is a conceptual diagram for explaining information stored in the user database in the system of FIG. 1;

FIG. 4 is a diagram showing the flow of delivery application acceptance processing;

- FIG. 5 is a diagram for explaining product for delivery
- 25 information;

FIG. 6A is a diagram explaining the flow of stock condition processing;

FIG. 6B is a diagram explaining the flow of delivery condition processing;

5 FIG. 7 is a diagram explaining the flow of product for delivery list notification processing;

FIG. 8 is a diagram explaining the flow of delivery terms designation processing;

FIG. 9 is an example of a screen for the vendor to input delivery  
10 application;

FIG. 10 is an example of notification to a delivery recipient of delivery application;

FIG. 11 is an example of a screen displaying a product for delivery list;

15 FIG. 12 is an example of inputted delivery terms;

FIG. 13 is an example of notification to a delivery business of a delivery request;

FIG. 14 is an overall block diagram of the delivery management system relating to the second embodiment;

20 FIG. 15 is a conceptual diagram for explaining the information stored in the user database in the system of FIG. 14;

FIG. 16 is a diagram explaining the flow of product for delivery list notification processing in the system of FIG. 14;

FIG. 17 is an example of a screen displaying a product for  
25 delivery list in the system of FIG. 14;

FIG. 18 is an example of inputted delivery terms in the system of FIG. 14;

FIG. 19 is an overall block diagram of the delivery management system relating to the third embodiment;

5     FIG. 20 is a diagram explaining the flow of delivery terms designation processing in the system of FIG. 19;

FIG. 21 is a diagram explaining the flow of cancellation processing in the system of FIG. 19;

FIG. 22 is an example of a delivery terms and cancellation  
10 designation screen in the system of FIG. 19;

FIG. 23 is an overall block diagram of the delivery management system relating to the fourth embodiment;

FIG. 24 is a diagram explaining the flow of product for delivery list notification;

15     FIG. 25 is a conceptual diagram of product for delivery information in the system of FIG. 23;

FIG. 26 is a diagram showing the flow of delivery terms designation processing in the system of FIG. 23;

FIG. 27 is an example of an inputted application for delivery  
20 to a delivery recipient in the system of FIG. 23; and

FIG. 28 is an example of inputted delivery terms in the system of FIG. 23.

#### DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

##### Overall Configuration

25     The delivery management system relating to the present

invention makes possible the combined delivery of products for delivery to the same delivery recipient. A user can schedule a delivery after an application for delivery has been made, and can select a preferred home-delivery business to make the delivery.

- 5 Also, combined delivery can be made of products for delivery to the same household. When a gift is to be sent to another person, the recipient of the gift can schedule delivery for a date and time convenient to him or her after the gift giver has purchased the gift and made an application for delivery. This eliminates
- 10 cases where the pleasures of gift-giving and receiving are diminished because recipient of the gift learns beforehand that a gift is to be made.

#### First Embodiment

##### *(1) Configuration of Delivery Management System*

- 15 FIG. 1 is an overall block diagram of the delivery management system relating to a first embodiment of the present invention. The delivery management system in the present embodiment comprises a vendor client 1, a delivery business client 2, a delivery recipient client 3 and a management server
- 20 4 interconnected via a network (not shown in the figure) governed by HTTP. Vendor herein means the party providing products, and includes the manufacturer of a product.

The management server 4 has an HTTP server 5 and an email server 6. The HTTP server 5 and the email server 6 do not have

25 to be on the same computer, and may operate on independent

computers. The HTTP server 5 functions as the front end, receiving connections from clients.

Specifically, the HTTP server 5 activates in response to the type of request a CGI program group represented by a delivery application acceptance unit 51, a delivery terms acceptance unit 52, a product for delivery list display unit 53, a stock conditions reception unit 54 and a delivery terms reception unit 55. Using these CGI programs, the HTTP server 5 also manages a delivery information database 8 in which delivery information is stored and a user database 7 in which personal information for delivery recipients is stored. The HTTP server 5 also activates CGI programs represented by a delivery application transmission unit 56 and a delivery request transmission unit 57. These programs access the email server 6 and send email messages to the delivery business client 2 and the delivery recipient client 3.

Each client, that is, the vendor client 1, the delivery business client 2 and the delivery recipient client 3, are computers with functions for accessing the management server 4. Personal computers and cell phones having WW browser functions are examples of such clients. These clients also have email receipt and transmission functions.

## (2) Database

### (2-1) Delivery Information Database

FIG. 2 is a conceptual drawing showing information stored in the delivery information database 8. Herein, "delivery

recipient ID" is the ID allocated to delivery recipients in this system. In the "requester" column the names of parties requested delivered are entered. The delivery recipient and the requester may be the same person or they may be different. In the present  
5 embodiment, in order to facilitate explanation, an explanation will be given for a case where they are the same. The "vendor" is the party that makes the application for delivery, i.e., the shipper of the product to be delivered. In the "item for delivery" column the items products for delivery are entered.

10 This database also has fields for "delivery date," "delivery place," and "delivery business." These fields are left blank until the delivery recipient makes designations for delivery terms.

The "application ID" is identification information that  
15 the system has allocated to one set of the above information. The "stock conditions" and "delivery terms" are input by the product vendor and delivery business, respectively.

#### (2-2) User Database

FIG. 3 is a conceptual diagram showing information stored  
20 in the user database 7. Stored in this database are "user ID," and the "name," "delivery place," "address," "email address," and "telephone number" of the delivery recipients. A plurality of delivery places can be registered for each user ID, with addresses and telephone numbers designated for each delivery place. Users  
25 who are product delivery recipients or requesters are registered

as users in the user database 7 prior to their use of this system.

### (3) Processing Flow

#### (3-1) Delivery Acceptance Reception

FIG. 4 is diagram explaining the flow of delivery  
5 acceptance processing conducted by the HTTP server 5.

When a vendor wishes to make a request for delivery to a  
delivery business, it first accesses the HTTP server 5 with a WWW  
browser and applies for a delivery (#1). This application is made  
by inputting predetermined information relating to the product  
10 to be delivered (refer to FIG. 9 below).

The HTTP server 5 upon receipt of the input information,  
activates the CGI program of the delivery application acceptance  
unit 51 (#2).

The delivery application acceptance unit 51, based on the  
15 input information, creates product to be delivered information  
as shown in FIG. 5 and writes product to be delivered information  
to the delivery information database 8 (#3). As shown in the  
figure, product to be delivered information contains delivery  
recipient user ID (hereinafter "delivery recipient ID"),  
20 requester user ID (hereinafter "requester ID"), deliverer,  
product for delivery, and application ID.

The delivery application acceptance unit 51 calls the  
delivery application transmission unit 56 CGI program and  
provides it with product for delivery information (#4). The  
25 delivery application transmission unit 56 accesses the user

database 7 and searches for the delivery recipient email address using the delivery recipient ID as the key (#5).

The delivery application transmission unit 56 accesses the email server 6 and sends delivery notification to the delivery recipient email address (#6, #7). This notification contains the URL for a web page on which is posted predetermined information relating to the delivery. An email message stating that a product delivery application has been made is sent to the delivery recipient (refer to FIG. 10 below).

10 (3-2) *Registration Processing for Stock Conditions and Delivery terms*

FIG. 6A is a diagram explaining the flow of stock condition registration processing conducted by the HTTP server 5 and FIG. 6B is a diagram explaining the flow of delivery condition registration processing conducted by the HTTP server 5. In these processings, vendors and delivery businesses register stock conditions and delivery terms, respectively, in the delivery information database 8. Stock condition registration processing and delivery condition registration processing are the same except for the fact that the registered information pertains either to stock conditions or delivery terms; thus an explanation will be given below just of the stock conditions.

When the vendor client 1 accesses the management server 4, authentication processing is conducted (#11, #21). When authentication is made, the vendor client 1 sends stock

conditions (#12, #22). Application ID is included in these stock conditions. The HTTP server 5, upon receipt thereof, activates the stock conditions reception unit 54 CGI program (#13, #23). The stock conditions reception unit 54 accesses the delivery information database 8, and with the application ID as the key, updates the stock conditions for the relevant product (#14, #24).  
(3-3) *Notification of Product for Delivery List Processing*

FIG. 7 is a diagram explaining the flow of notification of product for delivery list processing conducted by the HTTP server

5. When a delivery recipient uses a WWW browser to access the URL for which notification was given by email (#31), the HTTP server 5 authenticates the delivery recipient. When the delivery recipient is authenticated, the product for delivery list display unit 53 CGI program is activated (#32).

15 The product for delivery list display unit 53 accesses the delivery information database 8, and using the delivery recipient ID as a key, acquires a list of products for delivery scheduled to be delivered to the delivery recipient (#33). The product for delivery list display unit 53 then formats the acquired information in HTML file format (#34) and provides this to the delivery recipient (#35). At the delivery recipient client 3, the WWW browser displays a product for delivery list form (see FIG. 11 below). Designation of delivery terms, to be discussed below, can be input into this product for delivery list form (refer to  
25 FIG. 12 below).

### (3-4) Delivery Terms Designation Processing

FIG. 8 is a diagram showing the flow of delivery terms designation processing conducted by the HTTP server 5.

When a delivery recipient inputs delivery terms into the form and sends this to the HTTP server 5 (#41), the HTTP server 5 calls the delivery terms acceptance unit 52 CGI program (#42). These delivery terms are delivery date, delivery place, delivery business, etc.; they correspond to items in the delivery information database 8. The designation of delivery terms may be made at a point in time when the delivery recipient knows for certain what date and time, for example, are convenient, and does not have to be made immediately after receipt of delivery application notification, or immediately after viewing the products for delivery list.

The delivery terms acceptance unit 52 accesses the delivery information database 8 and writes the received delivery terms therein (#43). The delivery terms acceptance unit 52 also calls the delivery request transmission unit 57 program and provides it with the delivery terms (#44). The delivery request transmission unit 57 accesses the user database 7, and using the delivery recipient ID as a key, acquires delivery recipient information such as the delivery recipient's name, address and phone number (#45). Next, the delivery request transmission unit 57 accesses the email server 6 and sends to the delivery business client 2 an email message requesting delivery that contains the

delivery terms and the delivery recipient information (#46).

It should be noted that this designation of delivery terms can be partially automated. For example, let us suppose that delivery terms X have been designated for a certain product A; then, prior to delivery of this product A, there is a delivery request for another product B. Because it can be said that if the delivery terms X are followed it is guaranteed that the delivery recipient will be able to receive the delivery, the system can be programmed so that the delivery terms set for the product A are automatically set for the product B without asking the delivery recipient to set delivery terms. On such an occasion, it is fine to notify the user that an additional product will be delivered on the scheduled delivery day. As long as there is an item that has not yet been delivered, arrangements will be automatically made so that any new item for delivery will be delivered along with it. This means that the user does not have to go through the trouble of designated delivery terms every time there is a new product for delivery, and the delivery business has to make fewer individual deliveries due to such factors as delays in response from the delivery recipient, meaning that it will be able to make deliveries in which the products to be delivered are combined to the greatest extent possible, leading to increased efficiency. Also conceivable is the opposite case, where the delivery terms Y for product B set afterwards reflect the delivery recipient user's most up-to-date desired terms. In

such cases, the system can be programmed so that the delivery terms X for not yet delivered product A are automatically changed to reflect the delivery terms for the newly ordered product B. Or the system may be programmed so that when delivery terms have been designated for product B, the user is notified that there is a delivery-pending product for which differing delivery terms have been designated, and change of the delivery terms is conducted only after the user confirms that it is all right to do so. Thus when a user has changes in plans after having designated delivery terms, those changes are automatically reflected in the delivery terms, the user does not have to bother changing the delivery terms, and the delivery business can reduce losses due to changes in the plans of the delivery recipient user.

With the above processing, after a product has been ordered, a user can designate a date and time for delivery according to changes in his or her schedule and have a delivery made accordingly. Moreover, because a delivery recipient can receive a plurality of packages at once, a delivery business will benefit from a reduction in the time and effort involved in delivery and can therefore lower its delivery charges, meaning that both the charges for delivery and the time and effort spent in receiving a delivery will be reduced. In addition, the provider of the management server 4 can realize a profit by collecting a portion of the cost savings as a handling fee.

(4) Screen Examples

FIG. 9 is an example of an input screen for the vendor to input a delivery application. In this example, the screen is posted on a web page. The delivery recipient ID and the requester ID may be the same or they may be different. When the product is a gift, for example, these IDs will be different.

FIG. 10 is an example of a notification to a delivery recipient of a delivery application. The URL of the web page for inputting delivery terms is given here. In addition, it is also preferable to include the product for delivery and the name of the vendor.

FIG. 11 is a display example of a products for delivery list. In this example, this screen is provided on a web page. Delivery date, delivery place and delivery business can be set or changed on this screen. This figure shows a case where the delivery terms have not yet been designated.

FIG. 12 is an example showing delivery terms inputted. It is convenient for the user if a pull-down menu displays possible choices when inputting delivery terms, for example, delivery place and delivery business. On this form, not only can items that have not yet been set be set, but items that have already been set can be changed.

FIG. 13 is an example of a notification to a delivery business of a delivery request. Delivery date and time have been given as delivery terms, and name, address and phone number have been given as delivery recipient information. Also, the product

to be delivered and the vendor name have also been given.

## Second Embodiment

### (1) Configuration of Delivery Management System

FIG. 14 is a block diagram showing the overall constitution of the delivery management system according to a second embodiment. In this system, a delivery recipient group management unit 58 has been added to the constitution of the delivery management system according to the first embodiment. Delivery recipients are groups formed beforehand in units, for example, of households. The delivery recipient group management unit 58 receives registration of members of a group from delivery recipients and registers these in the user database 7.

As shown in FIG. 15, this user database 7 differs from the user database 7 in the first embodiment in that information for "group" is stored. The other stored information is the same as above.

Other constituent elements having the same designator as in FIG. 1 have the same function as the corresponding element in the first embodiment.

### 20 (1) Processing Flow

In the present embodiment, the processing flow for delivery acceptance processing, stock condition/delivery condition registration processing and delivery terms designation processing is the same as in the first embodiment. In addition to these processings, this system performs the following

processing:

*Products for delivery list notification processing*

FIG. 16 is a flow chart showing the flow of products for delivery list notification processing.

- 5           When a delivery recipient uses a WWW browser to access the management server 4 (#51), delivery recipient authentication based on delivery recipient ID is conducted. Upon authentication, the product for delivery list display unit 53 CGI program is activated, and it is provided with the delivery recipient ID (#52).
- 10   The product for delivery list display unit 53 accesses the user database 7, and with the delivery recipient ID as key, acquires the delivery recipient ID of other members of the group to which the accessing delivery recipient belongs (#53).

- Next, the product for delivery list display unit 53
- 15   accesses the delivery information database 8, and using the group members' delivery recipient IDs as keys, acquires a list of scheduled products for delivery scheduled to be delivered to a delivery recipient belonging to that group (#54). This is formatted in HTML file format (#55), and sent to the accessing
- 20   delivery recipient (#56).

*(2) Screen Example*

- FIG. 17 is a screen example showing a product for delivery list. In addition to products for delivery to the accessing delivery recipient, a list of products for delivery scheduled to
- 25   be delivered to members of the group to which the accessing

delivery recipient belongs is displayed

FIG. 18 show a delivery terms input example. As with the first embodiment, the delivery recipient uses this to designate such delivery terms as delivery date, delivery date, delivery business, etc. and the delivery terms are notified to the delivery business. In this figure, the items that have not yet been set, that is, delivery date, delivery place, and delivery business, can be changed only by the delivery recipient user him or herself. In principle, the items set for other group members cannot be changed. But the system may be set so that the items of other group members can be changed according to need.

As described above, in the present embodiment, among user groups such as families, a plurality of deliveries can be combined into one, making possible a further improvement in delivery efficiency.

### Third Embodiment

#### *(1) Configuration of Delivery Management System*

FIG. 19 is a block diagram showing the overall constitution of the delivery management system according to a third embodiment of the present invention. This system comprises the delivery management system according to the first embodiment, with the addition of a cancellation acceptance unit 59 and a purchase right control unit 510. Other constituent elements having the same designator as in FIG. 1 have the same function as the corresponding element in the first embodiment.

The cancellation acceptance unit 59 accepts cancellation of orders for products.

The purchase right control unit 510 notifies the vendor client 1, when delivery terms have been designated for a delivery application, that a product specified by the ID for that application has been purchased.

## (2) Processing Flow

In the present embodiment, the processing flow for delivery acceptance processing, stock condition/delivery condition registration processing and products for delivery list notification processing is the same as in the first embodiment. In addition to these processings, this system performs delivery terms designation processing and cancellation processing, as described below.

### 15 (2-1) Delivery Terms Designation Processing

FIG. 20 is a diagram showing the flow of delivery terms designation processing performed by the HTTP server 5. The processing for writing designation of delivery terms in the delivery information database 8 (#61 to #63) and sending delivery recipient information and sending said designation to the delivery business client 2 (#64 to #67) is the same as in the first embodiment.

The delivery terms acceptance unit 52 further calls the purchase right control unit 51 CGI program, and provides it with purchase instructions (#68). These instructions include

application ID and product name for specifying the product for which delivery terms have been set.

The purchase right control unit 510 accesses the email server 6 and sends the vendor client 1 notification of the  
5 purchase instructions, including application ID and product name (#69, #610). The vendor, upon receipt of this notification, performs settlement processing for invoicing the delivery recipient for the charges for the product.

This processing allows the time lag between the time of  
10 payment for the ordered product and time of delivery of that product to be shortened. Also, the party that ordered the product can put off paying for the product until the product is actually available for delivery.

#### (2-2) Cancellation Processing

15 FIG. 21 is a diagram showing the flow of cancellation processing performed by the HTTP server 5.

In this example, an application for delivery can be cancelled using the form for inputting delivery terms (see FIG. 22 below). The HTTP server 5 receives a cancellation (#71), and  
20 calls the cancellation acceptance unit 59 CGI program (#72). The cancellation acceptance unit 59 accesses the delivery information database 8 and deletes the entry for the cancelled application (#73). The HTTP server 5 calls the purchase right control unit 510 CGI program and provides it with the application  
25 cancellation instructions (#74). These instructions contain the

ID for the cancelled application. The purchase right control unit 510 accesses the email server 6, and sends to the vendor client 1 notification that the order for the product relating to the application has been cancelled (#75, #76).

5           With this processing, if the party that has made the order finds a better product before making payment, that party can make a change with a minimum of cost and effort. The vendor may charge the delivery recipient a cancellation penalty, in the form of a cancellation fee.

10   (3) *Screen Example*

FIG. 22 shows an example of a screen using which a delivery recipient designates delivery terms and cancellation. By checking the "cancel" field, a delivery recipient can cancel the purchase of a product.

15   Fourth Embodiment

(1) *Configuration of Delivery Management System*

FIG. 23 is a block diagram showing the overall constitution of the delivery management system according to a fourth embodiment of the present invention. This system comprises the  
20   delivery management system according to the first embodiment, with the addition of a settlement unit 511 and a delivery business database 9. In addition, the delivery information database 8 is provided with a delivery charge payer field (not shown). The user database 7 is provided with a credit card information field (not  
25   shown). Other constituent elements having the same designator as

in FIG. 1 have the same function as the corresponding element in the first embodiment.

The delivery business database 9 is shared by this system and delivery businesses, and can be updated by delivery businesses. There may be a plurality of databases, one for each delivery business, or this database may be on servers managed by delivery businesses. This database stores the delivery schedule of the delivery business, and rate data according to delivery region and type of delivery service.

The settlement unit 511 performs settlement processing for invoicing the party that will pay the charges. For settlement processing, it is good to store credit card information beforehand in the user database 7.

#### *(1) Processing Flow*

As with the first embodiment, this system performs stock condition and delivery condition registration processing. In addition to these processings, the following processings are performed in this system.

#### *(2-1) Delivery Acceptance Processing*

With the exception of the following points, the HTTP server 5 performs delivery acceptance processing in the same manner as in the first embodiment (not shown in figure). The vendor client 1 accesses the email server 6 and sends a delivery application (see FIG. 27 below). In addition to the contents as described in the first embodiment, this application allows entry of which

party will pay for the charges, in the event that the delivery recipient ID and the requester ID are different.

The delivery application acceptance unit 51 creates delivery product information from the input contents it has received. FIG. 25 is a conceptual diagram of the delivery product information. In addition to delivery recipient ID, requester ID, vendor, and product for delivery application ID, the charge payer is also included. The delivery application acceptance unit 51 accesses the delivery information database 8 and writes this product for delivery information therein.

#### *(2-2) Product for Delivery List Notification Processing*

FIG. 24 is a diagram showing the flow of product for delivery list notification processing performed by the HTTP server 5.

When a delivery recipient accesses management server 4 using a WWW browser (#81), the HTTP server 5 performs authentication based on delivery recipient ID and the like. Upon authentication, the product for delivery list display unit 53 CGI program is activated (#82). The product for delivery list display unit 53 first accesses the delivery information database 8, and using delivery recipient ID as the key, acquires a list of products for delivery to the accessing delivery recipient as well as the delivery information therefor (#83).

Next, the product for delivery list display unit 53, using delivery information as key, searches the delivery business

database 9. For example, using delivery place and delivery date as keys, it searches the schedule of the delivery business. Then it acquires a list of delivery businesses that can deliver the product for delivery as well as the charges for that delivery

5 (#84).

The product for delivery list display unit 53 formats the acquired information in HTML file format and sends this in an email message to the delivery recipient (#85, #86). A form that includes delivery charges and delivery services is displayed at

10 the delivery recipient client 3.

#### (2-2) *Delivery Terms Designation Processing*

FIG. 26 is a drawing showing the flow of delivery terms designation processing performed by the HTTP server 5.

The HTTP server 5 receives the designation of delivery

15 terms inputted into the above-described form (#91) and calls the delivery terms acceptance unit 52 CGI program (#92). The delivery terms acceptance unit 52, as in the first embodiment, writes the delivery terms (#93) and gives notification of the delivery terms (#94). Thus the delivery recipient information is sent as email

20 to the delivery business client 2 (#95, #96, #97).

Next, the delivery terms acceptance unit 52 provides settlement instructions to the settlement unit 511 (#98). In other words, instructions are given to the settlement unit 511 to assess charges against the party to bear the charges. The

25 settlement unit 511 accesses the user database 7 and, using

delivery recipient ID as the key if the delivery recipient is to bear the charges, or requester ID as the key if the requester is to bear the charges, acquires the credit card number to be used for settling the charges (#99). The settlement unit 511, in addition to performing settlement processing, accesses the email server 6 (#100) and sends an email message giving notification of the settlement to the client of the appropriate party (#101).

With the above processing, instead of the conventional uniform charges, charges can be collected that accurately reflect delivery terms. It also becomes possible to decide on delivery terms such that the delivery recipient schedule and the schedule of the delivery business match. A delivery business may implement a service, for example, that offers a discount when all the packages can be loaded into a single truck.

## 15 (2) Screen Examples

FIG. 27 is an example of an input screen for a vendor to apply for delivery. Unlike the first embodiment, there is a field for input of charge payer.

FIG. 28 is an example of inputted delivery terms displayed at the delivery recipient client 3. Only those delivery businesses that can make delivery fulfilling such delivery terms as delivery date and desired type of service are displayed in a pull-down menu. Types of service include, for example, special rush delivery, over-sized packages, and delivery in refrigerated trucks. In addition, charges are displayed according to the

selected delivery terms. The total current charges that the delivery recipient is to pay are also displayed. The system may be programmed so that when the delivery recipient and the requester are different, and the requester is to pay the charges, the charges are displayed but not included in the total, or the charges are not displayed.

#### Other Embodiments

(A) In the above embodiments, CGI programs are used, but other technology that performs similar functions may be used, such as Java servlets. Also, communication means other than email may be used for performing notification of delivery application and delivery requests.

(B) The above embodiments may be combined as needed.

(C) A recording medium on which is recorded a program for executing the above-described methods of the present invention is included in the present invention. Possible types of recording media include computer-readable floppy diskettes, hard disks, semiconductor memory, CD-ROMs, DVDs, magneto-optical disks, etc.

By using the present invention a user can know, before a product actually arrives, when a product scheduled for delivery will be delivered, and can receive deliveries from a plurality of delivery businesses around the same time or the delivery of a plurality of products at once, reducing both delivery charges and the effort involved in receiving deliveries. Families and other groups can also receive deliveries from a plurality of

delivery businesses around the same time or the delivery of a plurality of products at once. Moreover, even after applying for delivery, a delivery recipient can make designations for delivery terms that match changes in his or her schedule.

5           While only selected embodiments have been chosen to illustrate the present invention, to those skilled in the art it will be apparent from this disclosure that various changes and modifications can be made herein without departing from the scope of the invention as defined in the appended claims. Furthermore,  
10 the foregoing description of the embodiments set forth in the present invention is provided for illustration only, and not for the purpose of limiting the invention as defined by the appended claims and their equivalents.

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